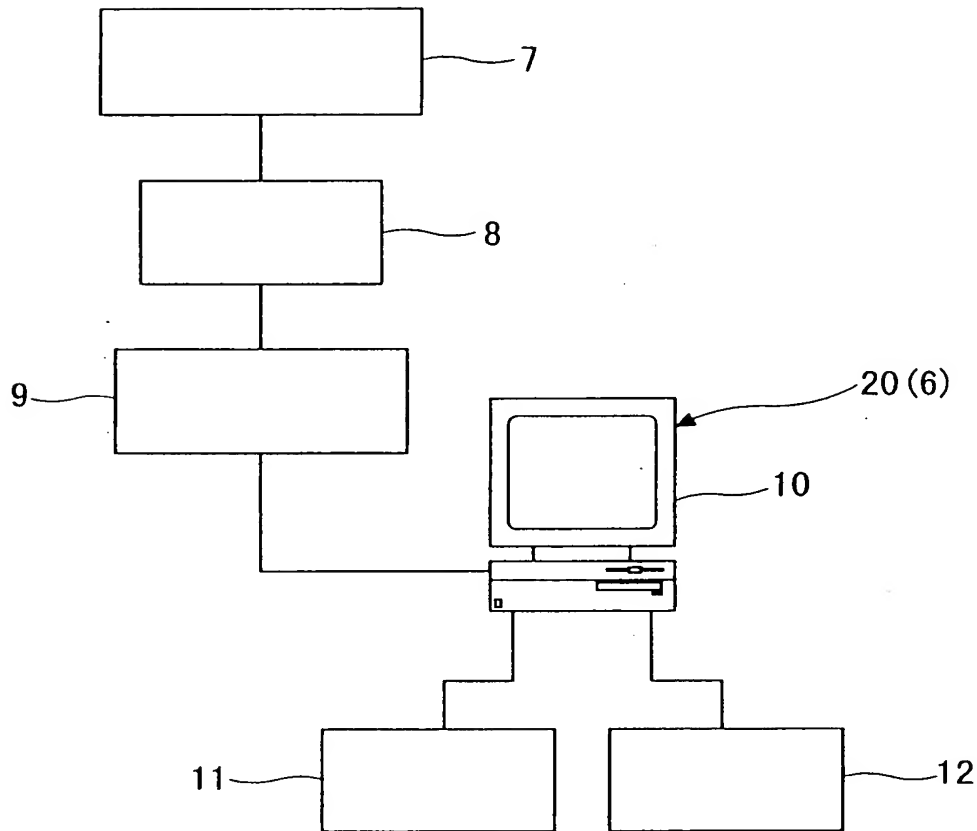
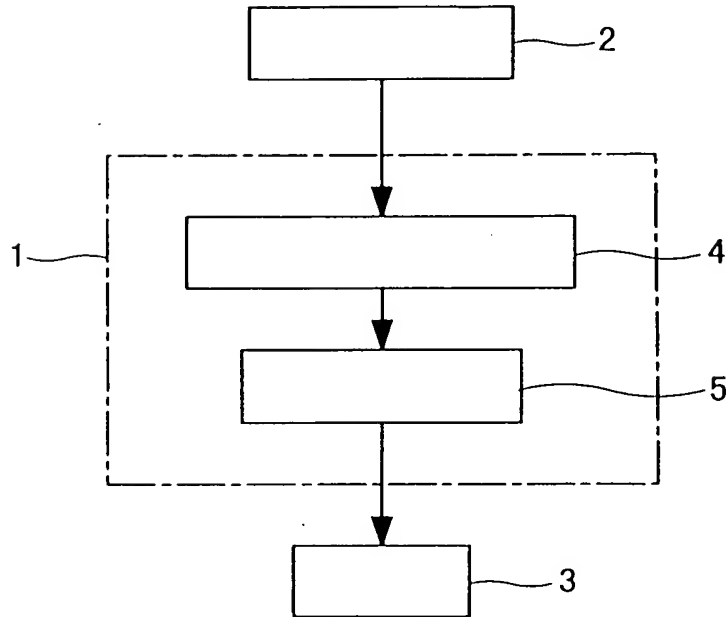


FIG. 1



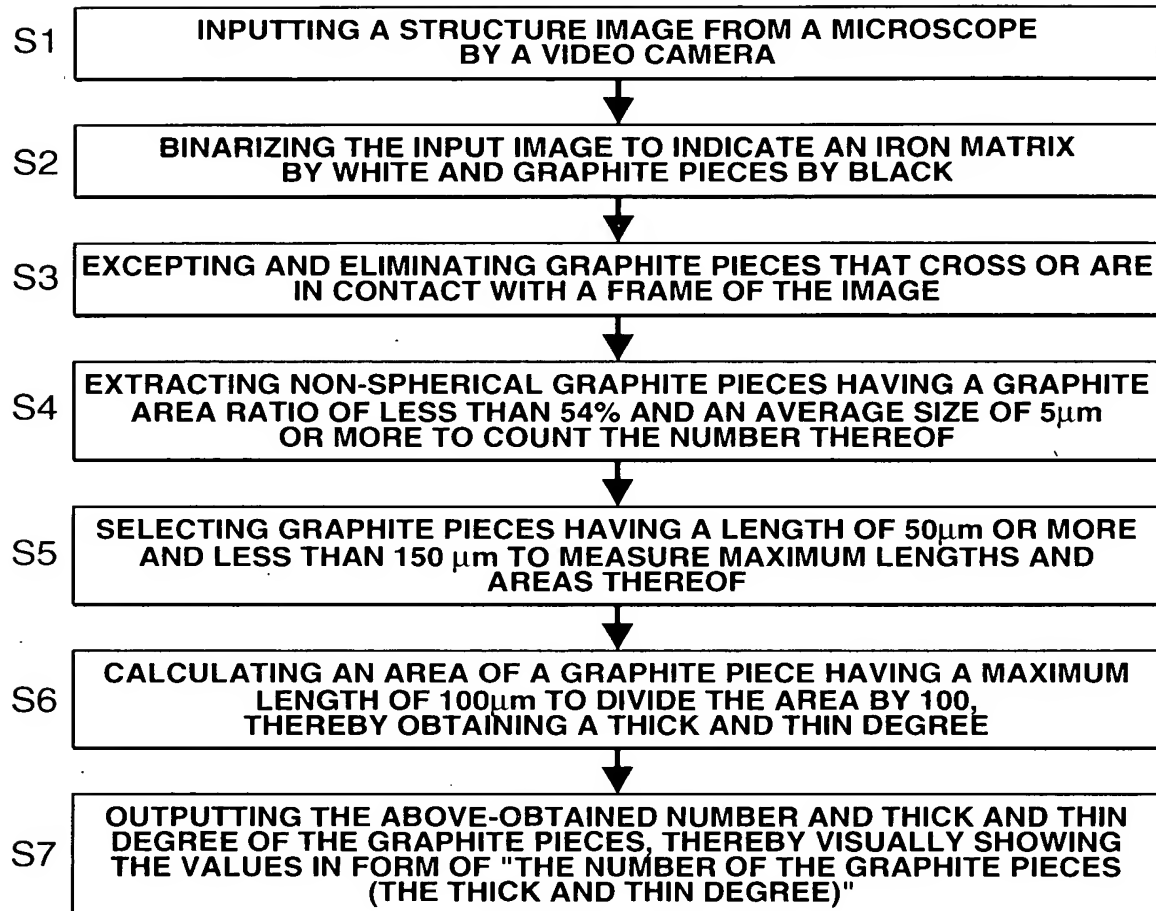
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FIG. 2



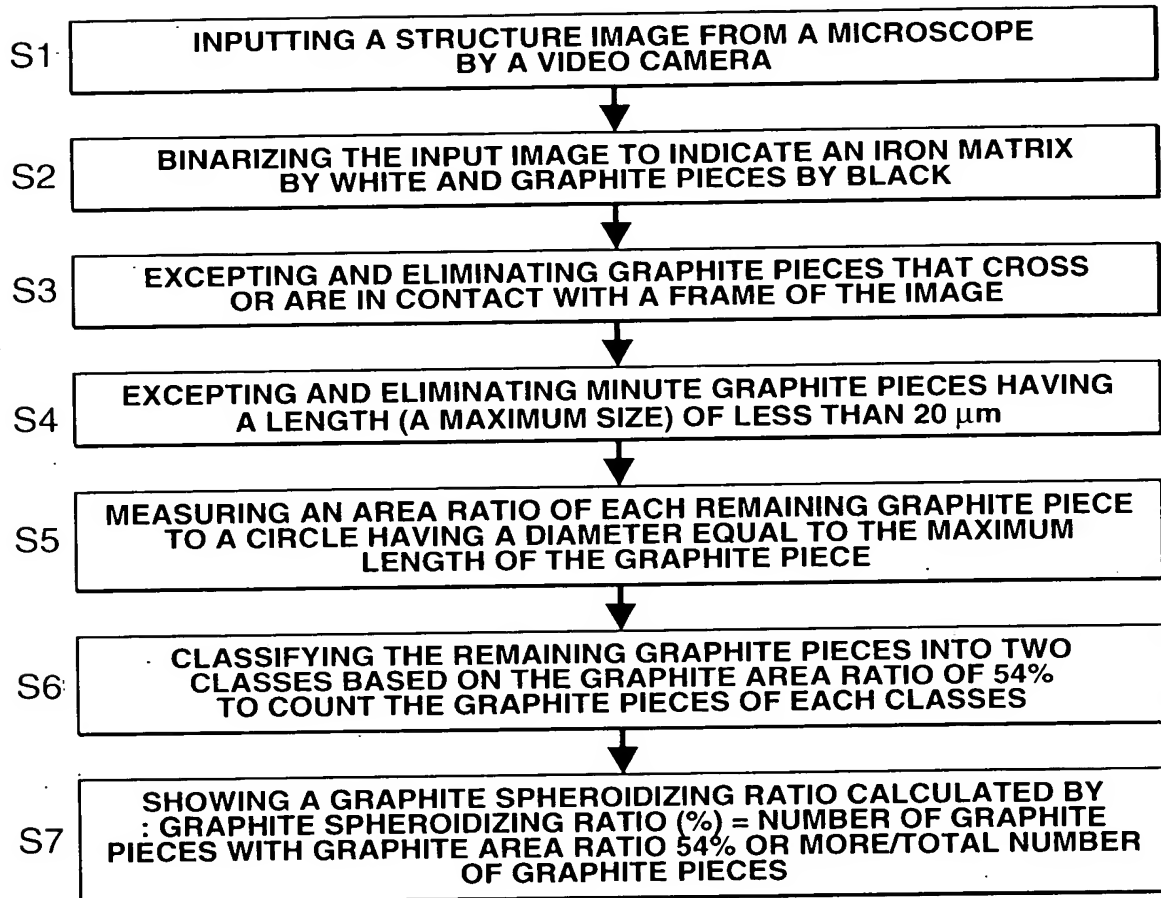
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FIG. 3



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FIG. 4



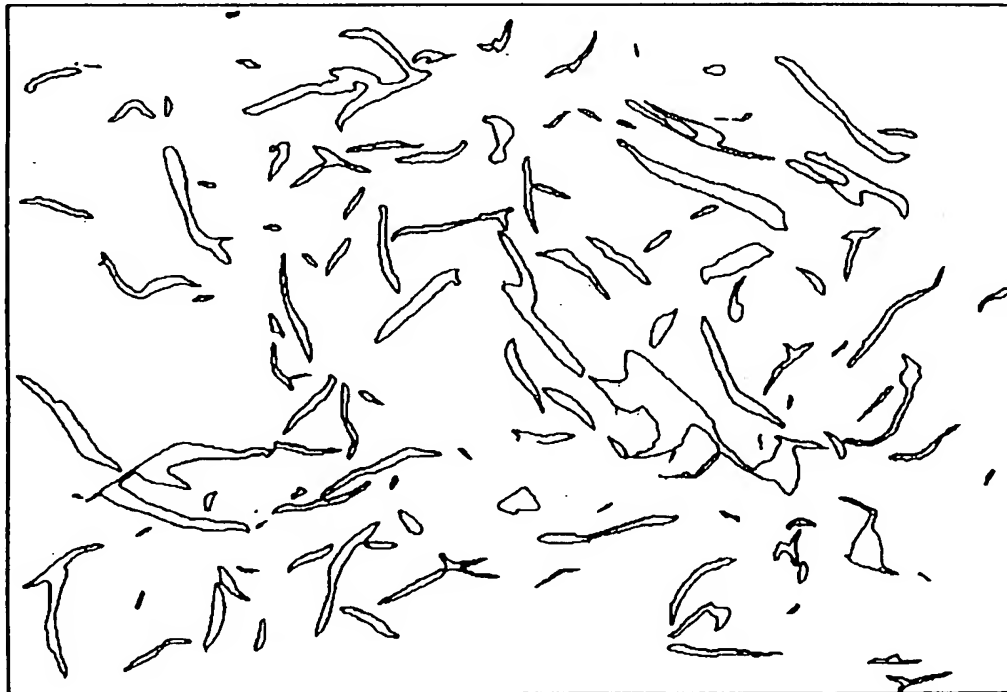
STEPS OF IMAGE ANALYSIS FOR MEASURING GRAPHITE SPHEROIDIZING RATIO

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FIG. 5

RECORD OF GRAPHITE SPHEROIDIZING RATIO MEASUREMENT			
MEASUREMENT DATE 2002/03/29 <FULL FIELD MEASUREMENT>			
GRAPHITE PIECES HAVING MAXIMUM SIZE OF 20 MICRONS OR LESS WERE EXCEPTED			
GRAPHITE STRUCTURE	STRUCTURES I TO IV	STRUCTURES V TO VI	GRAPHITE SPHEROIDIZING RATIO (%)
COEFFICIENT	0	1.0	
MEASUREMENT FIELD	1	109	0.9
	2	112	0.9
	3	109	0.9
	4	*	*
	5	*	*
TOTAL FIELD	330	2	0.6

<STRUCTURE VIEW>



OUTPUT OF IMAGE ANALYSIS RESULT

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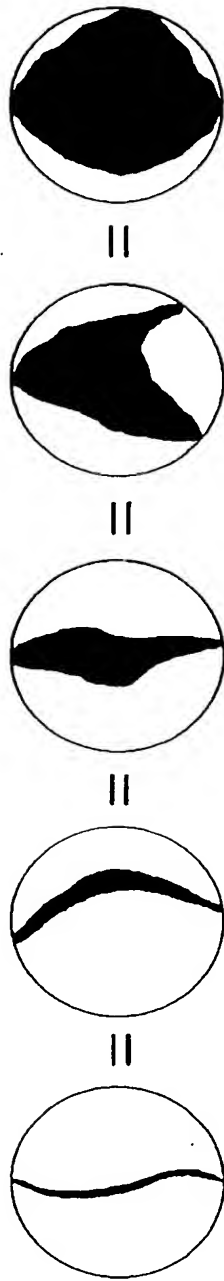


FIG. 6A

MAXIMUM SIZE

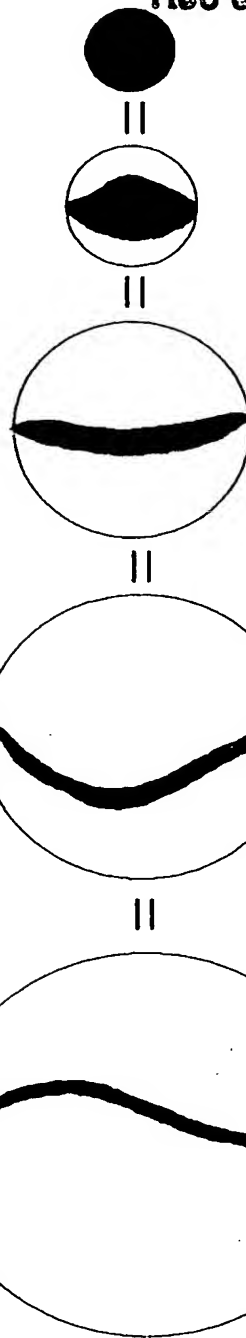


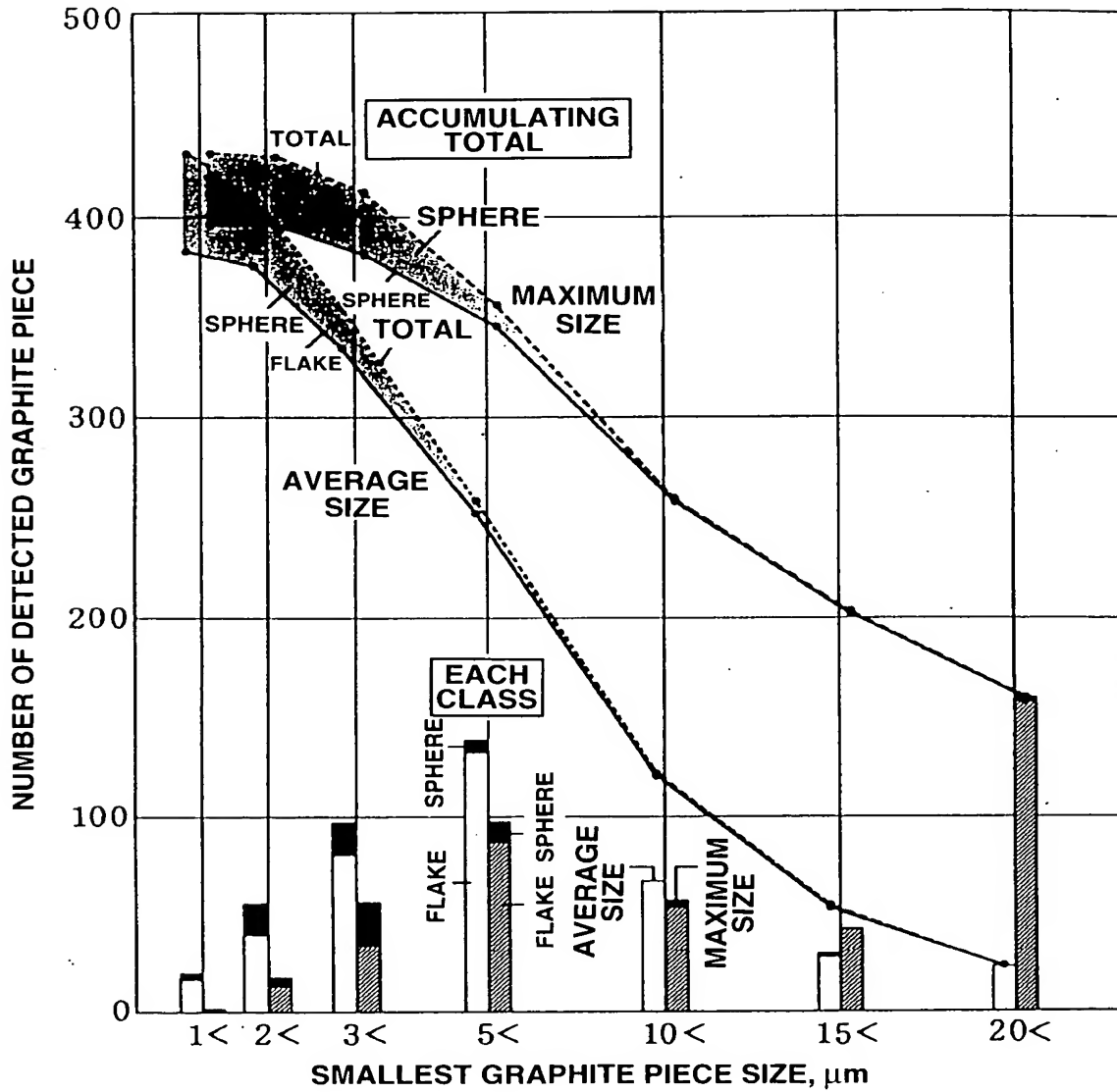
FIG. 6B

AVERAGE SIZE

MAXIMUM SIZE AND AVERAGE SIZE FOR MEASURING GRAPHITE SIZE

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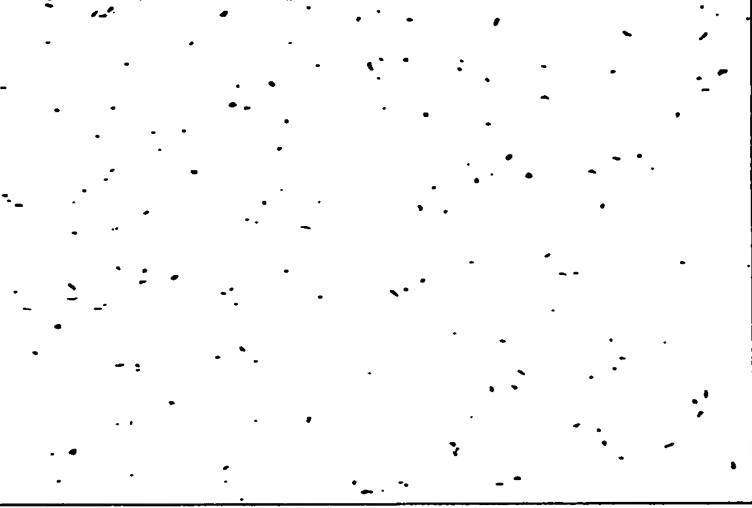

FIG. 7



NUMBERS OF DETECTED GRAPHITE PIECES
OF DIFFERENT SHAPES AND SIZES

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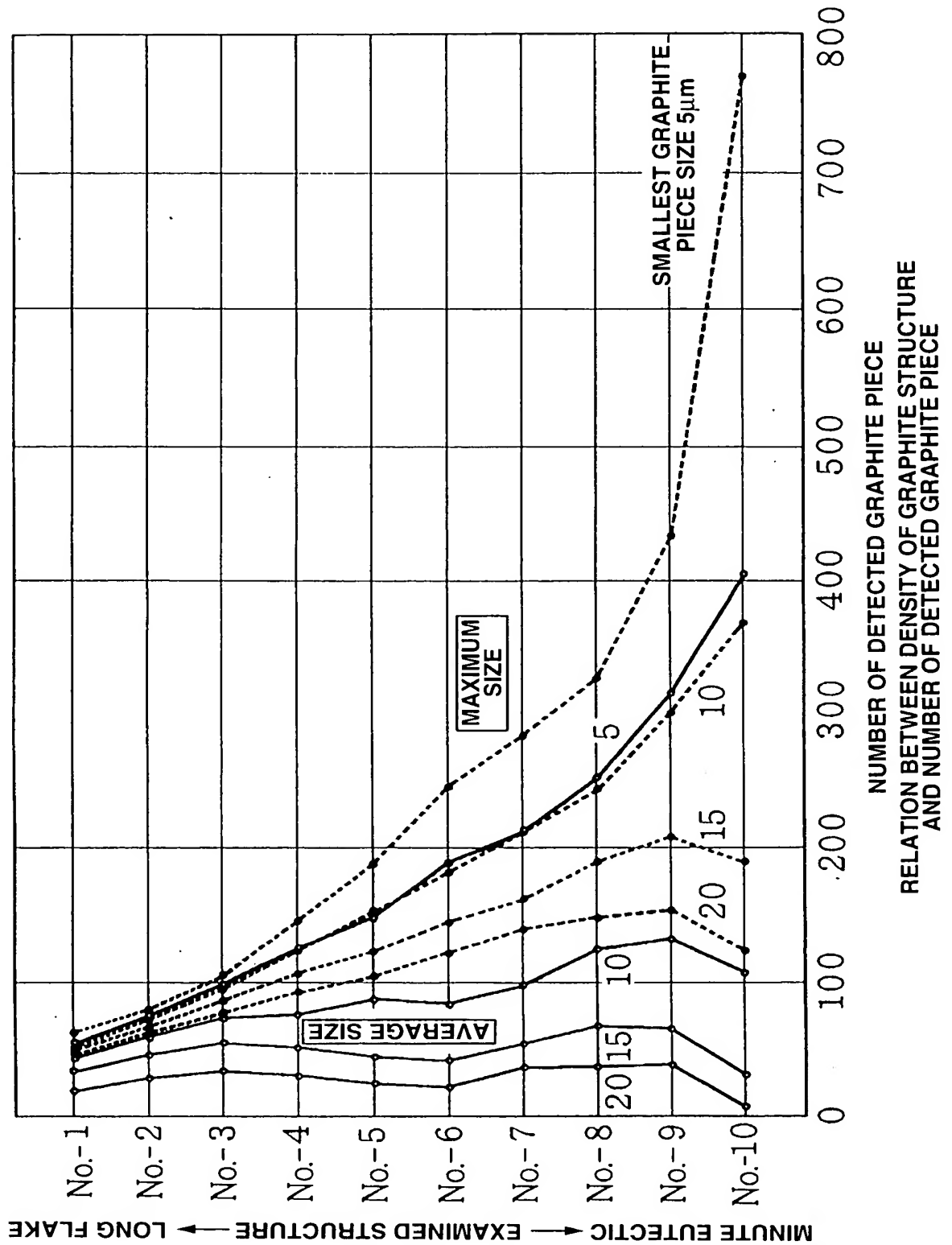
FIG. 8

GRAPHITE SIZE	ALL GRAPHITE PIECES			NUMBER OF GRAPHITE PIECES	
		FLAKE	281	SPHERE	32
		TOTAL	313		
GRAPHITE SIZE	MAXIMUM SIZE OF LESS THAN 10 μ m			NUMBER OF GRAPHITE PIECES	
		FLAKE	104	SPHERE	30
		TOTAL	134		
GRAPHITE SIZE	MAXIMUM SIZE OF 10 μ m OR MORE			NUMBER OF GRAPHITE PIECES	
		FLAKE	177	SPHERE	2
		TOTAL	179		

DIVISION OF GRAPHITE PIECES INTO THOSE OF MAXIMUM SIZE
OF LESS THAN 10 μ m AND THOSE OF MAXIMUM SIZE OF 10 μ m OR MORE

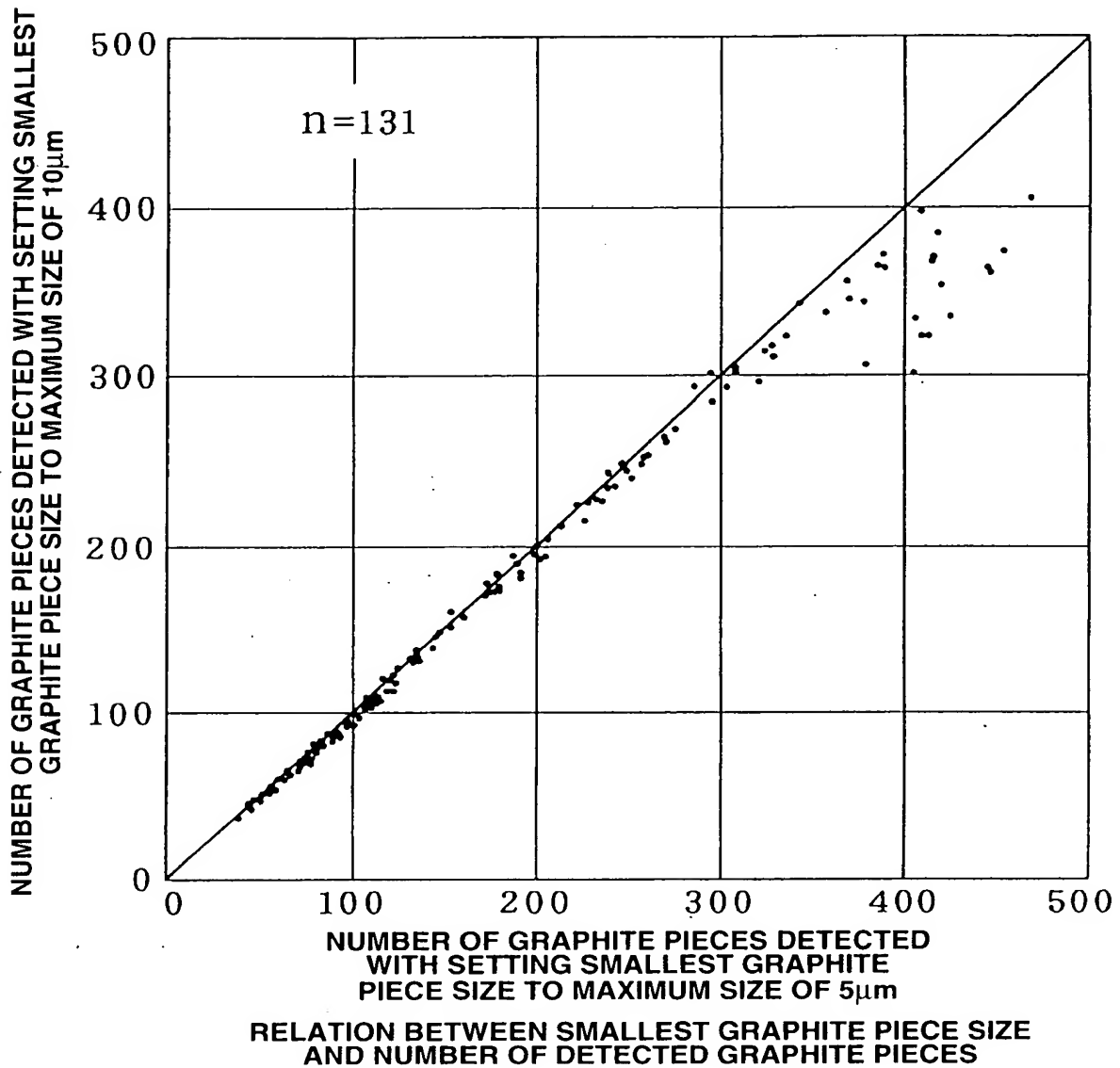
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FIG. 9



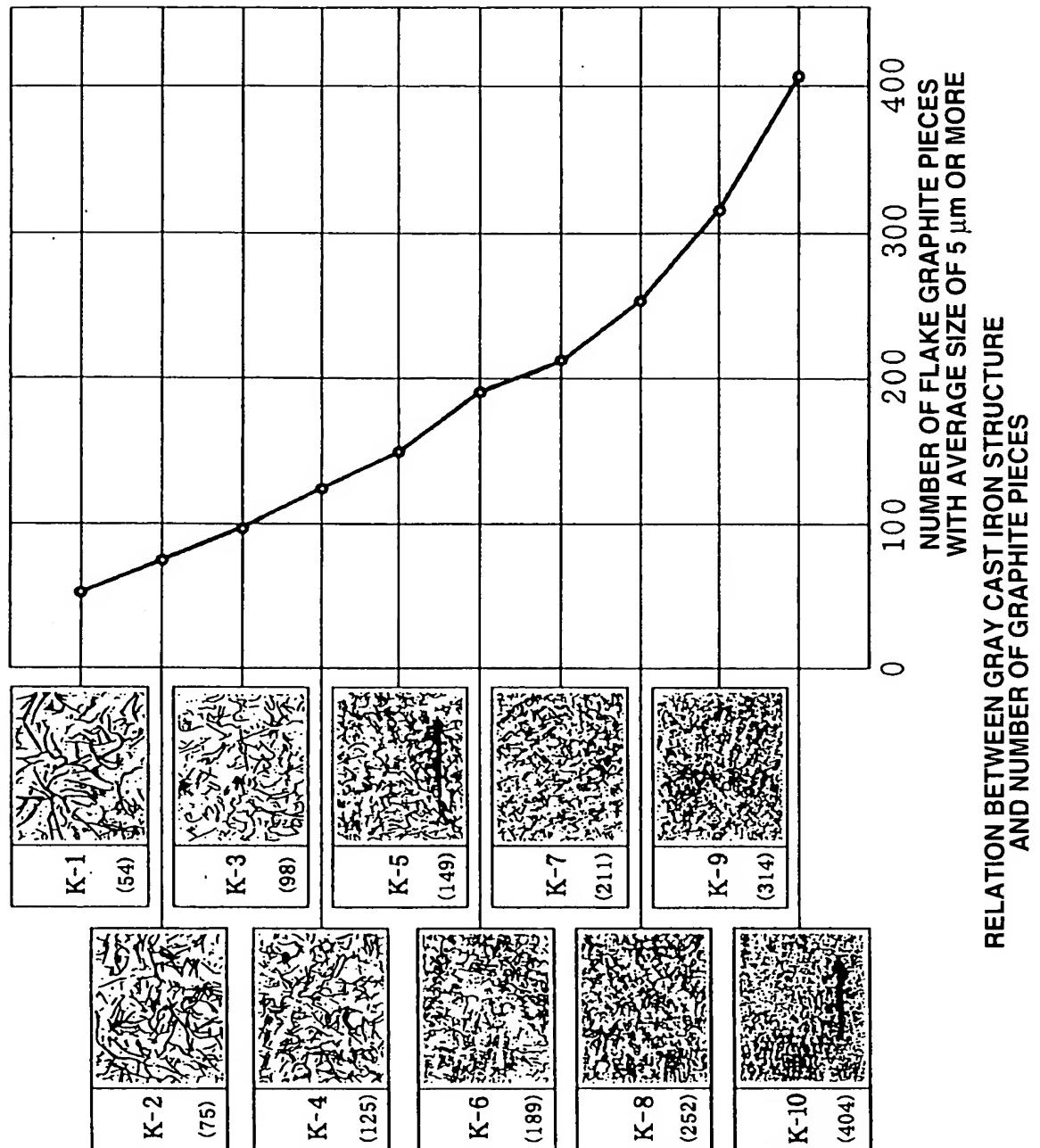
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FIG. 10



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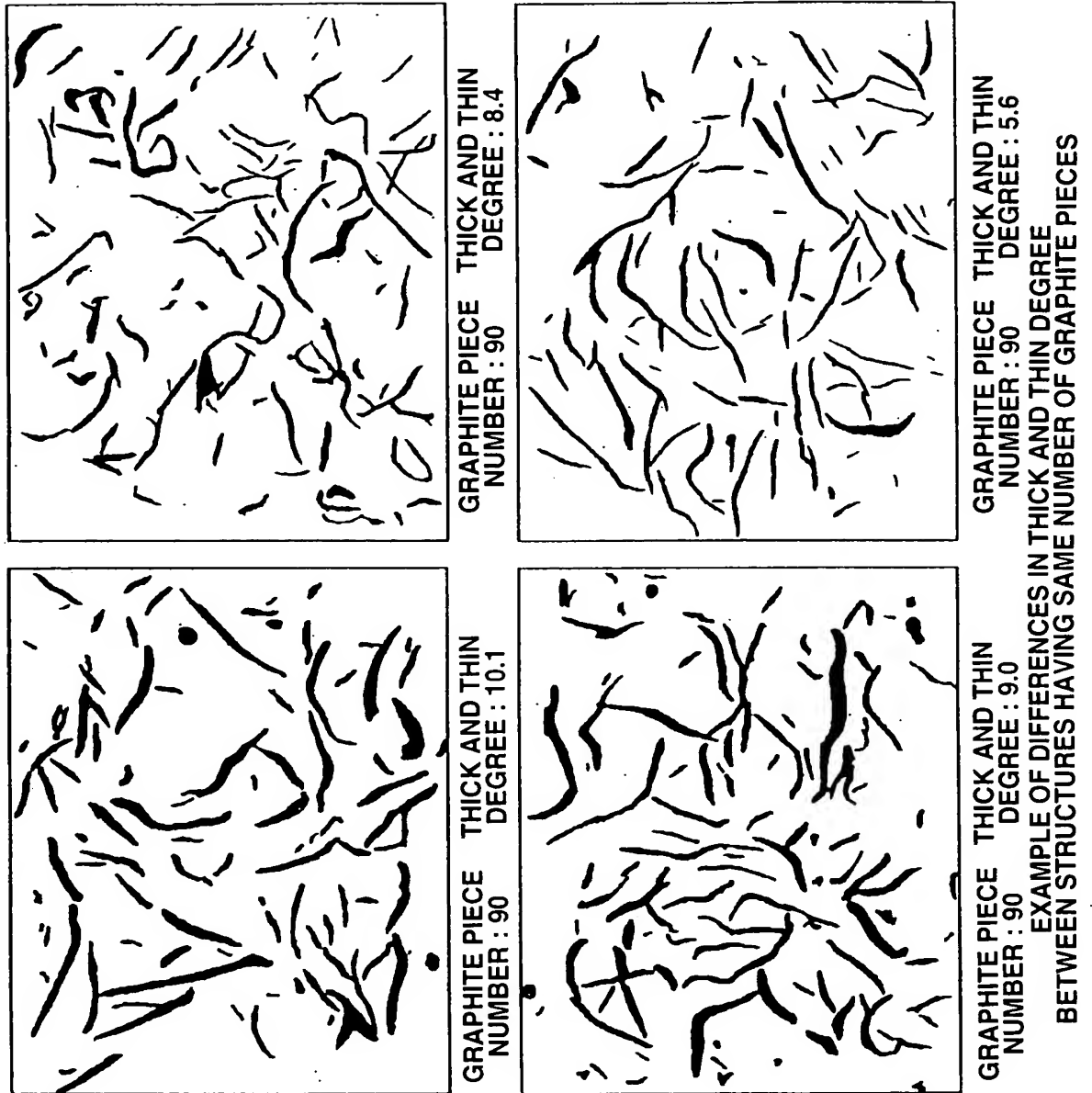
FIG. 11



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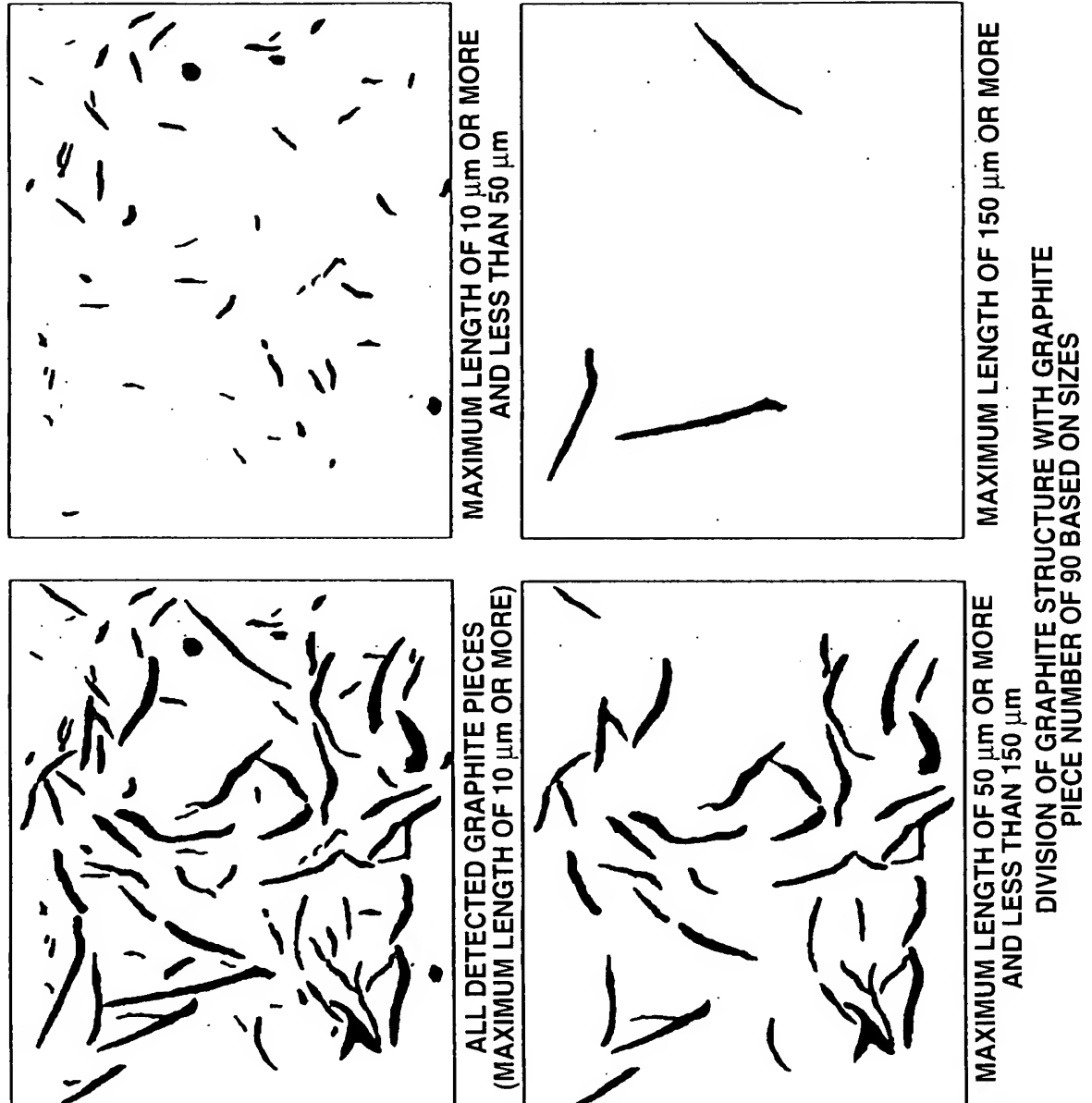
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FIG. 12



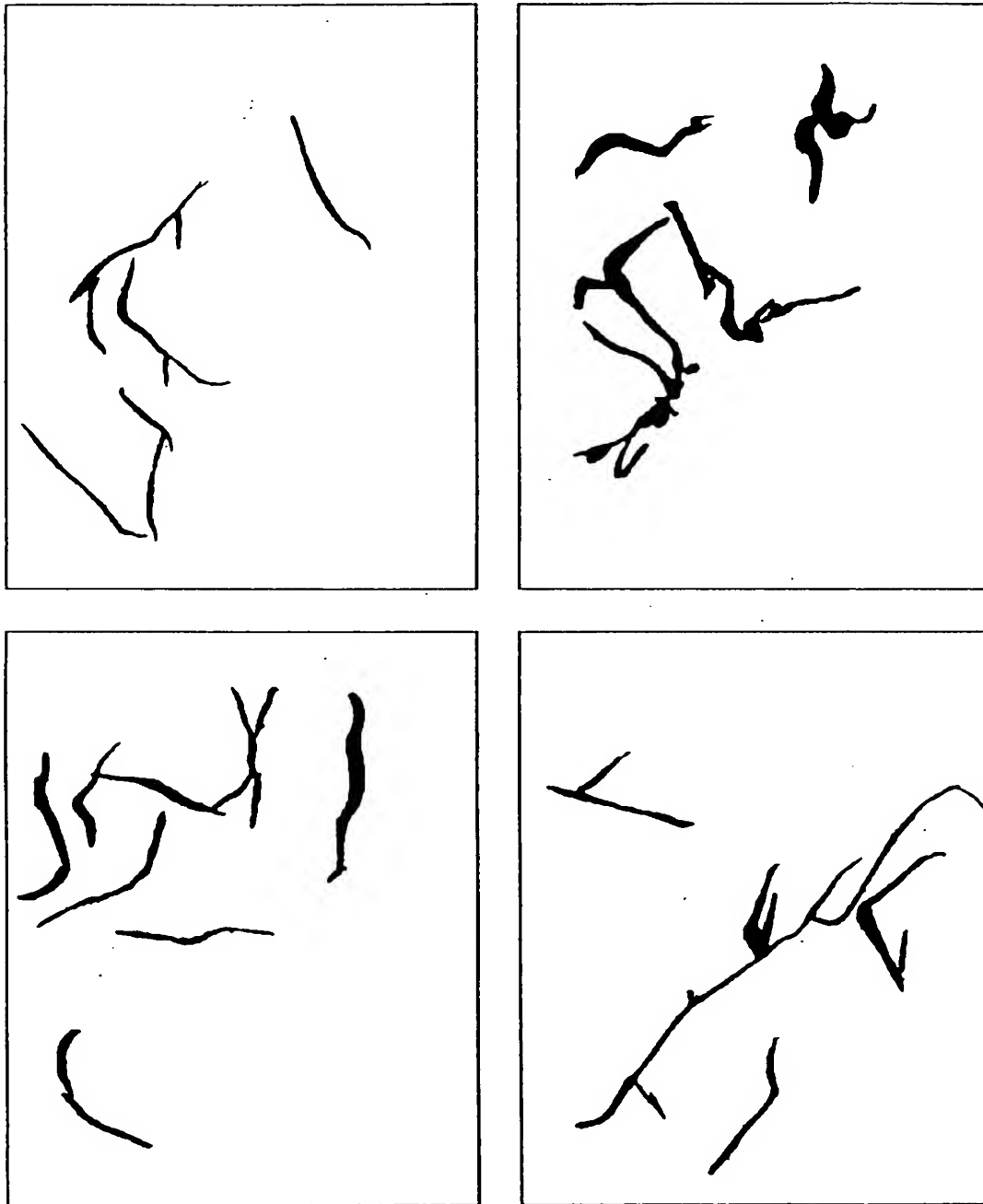
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FIG. 13



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FIG. 14

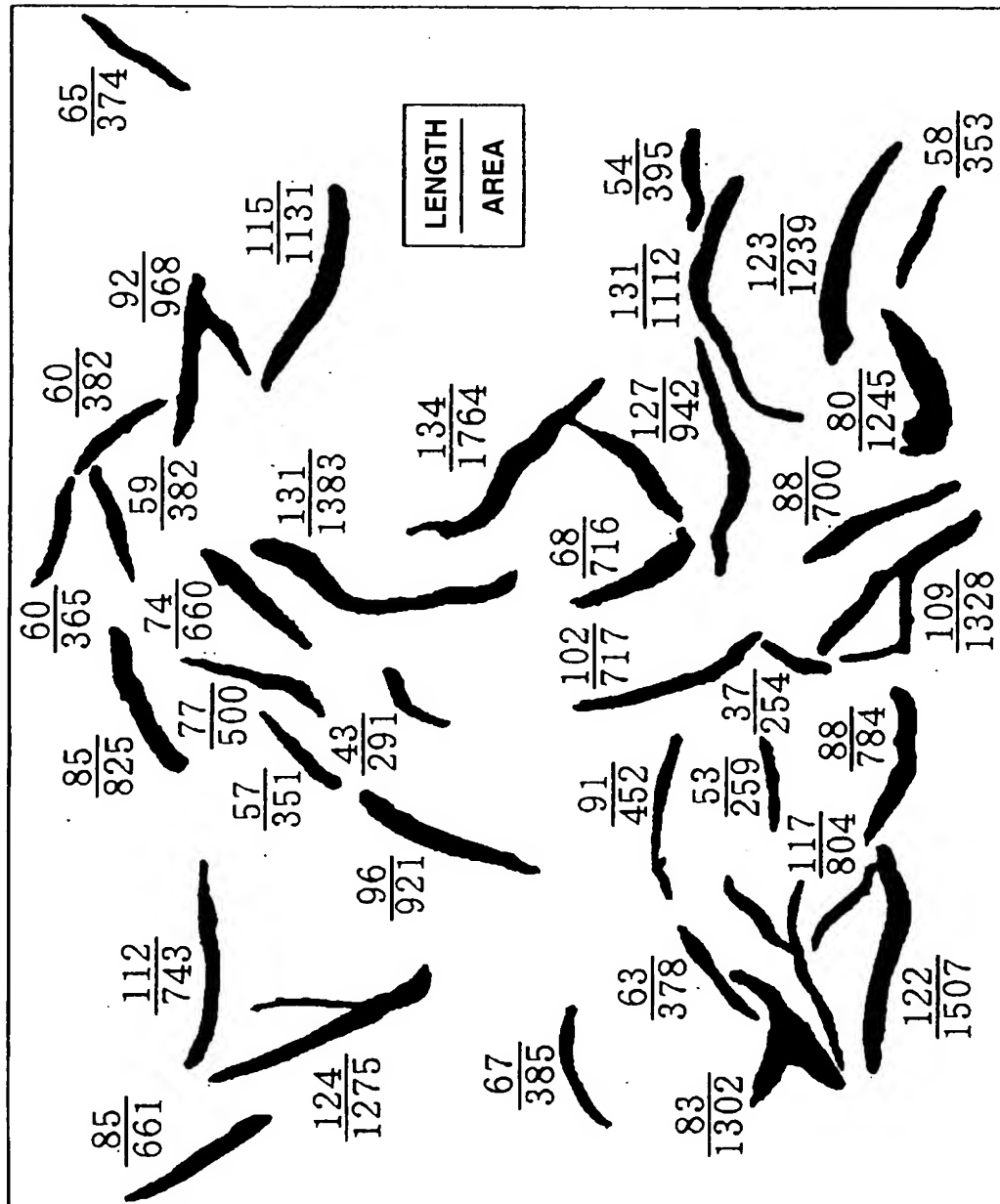


LINKAGE OF A PLURALITY OF GRAPHITE PIECES INCREASED AMONG
GRAPHITE PIECES WITH SIZE OF APPROXIMATELY 150 μm OR MORE

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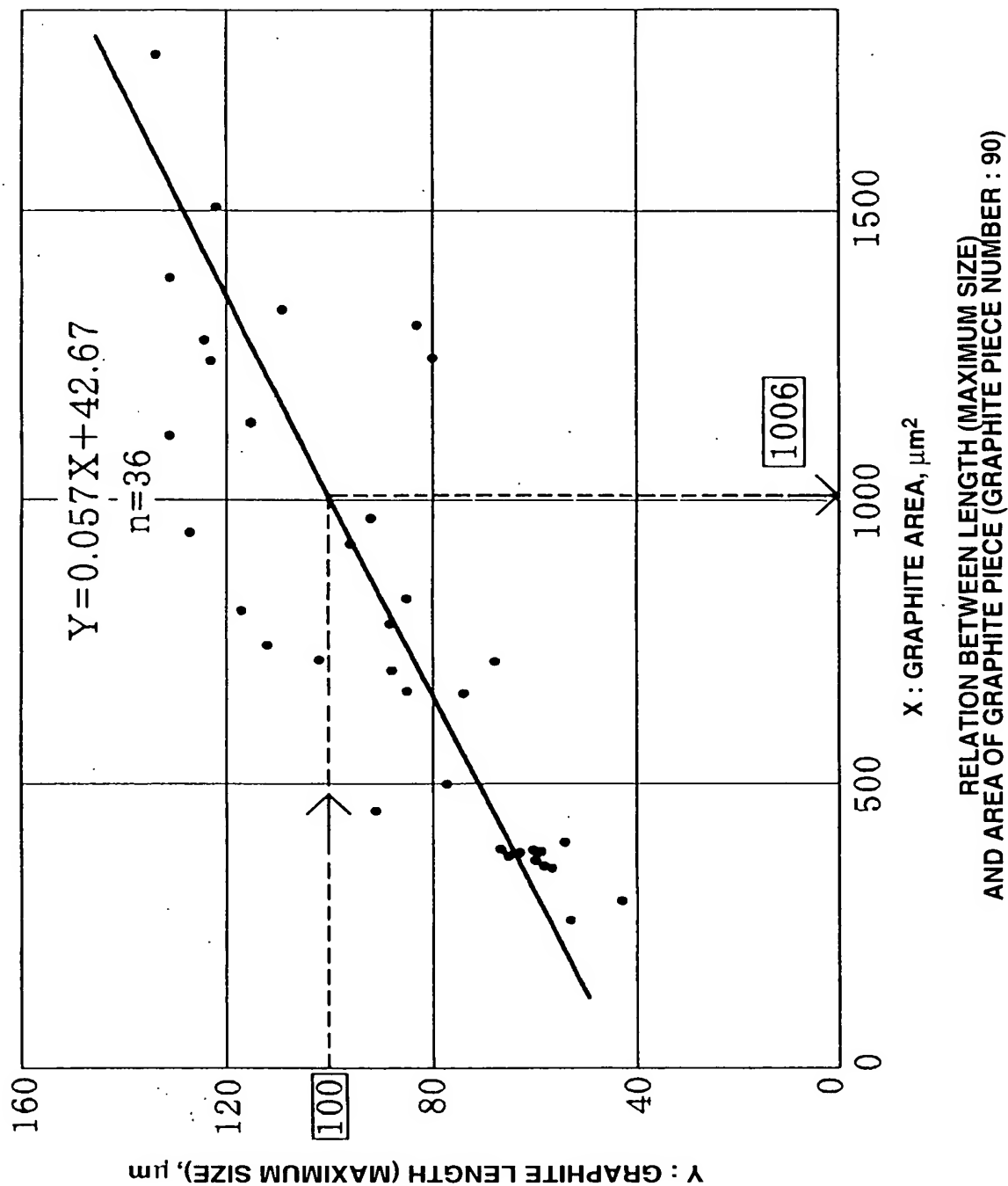
FIG. 15



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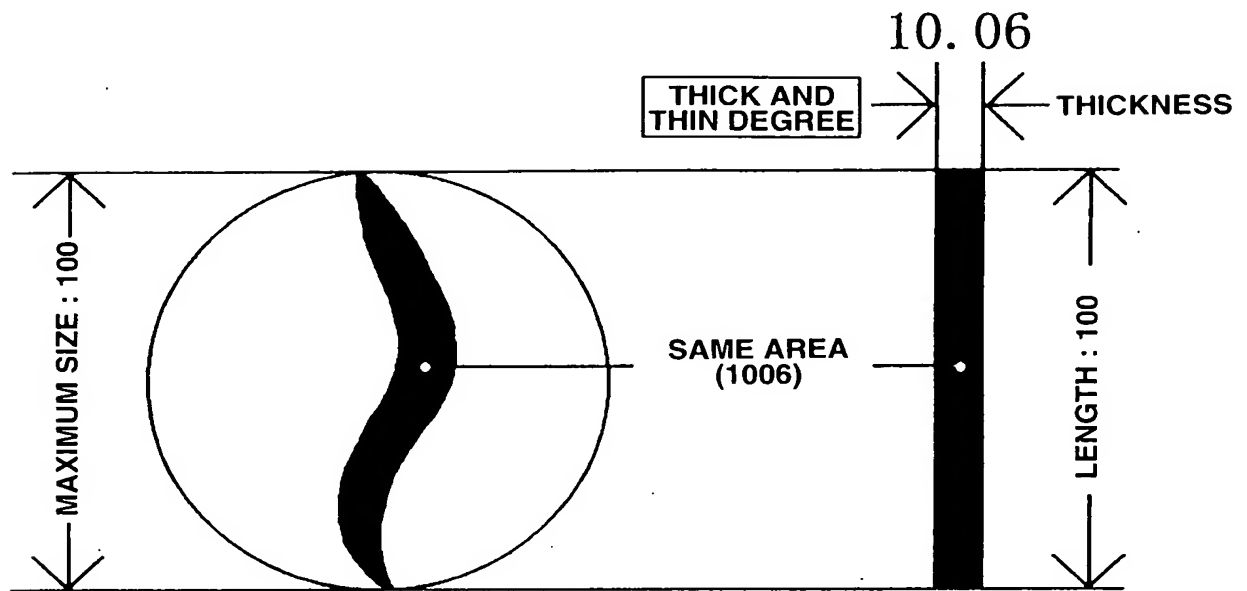
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FIG. 16



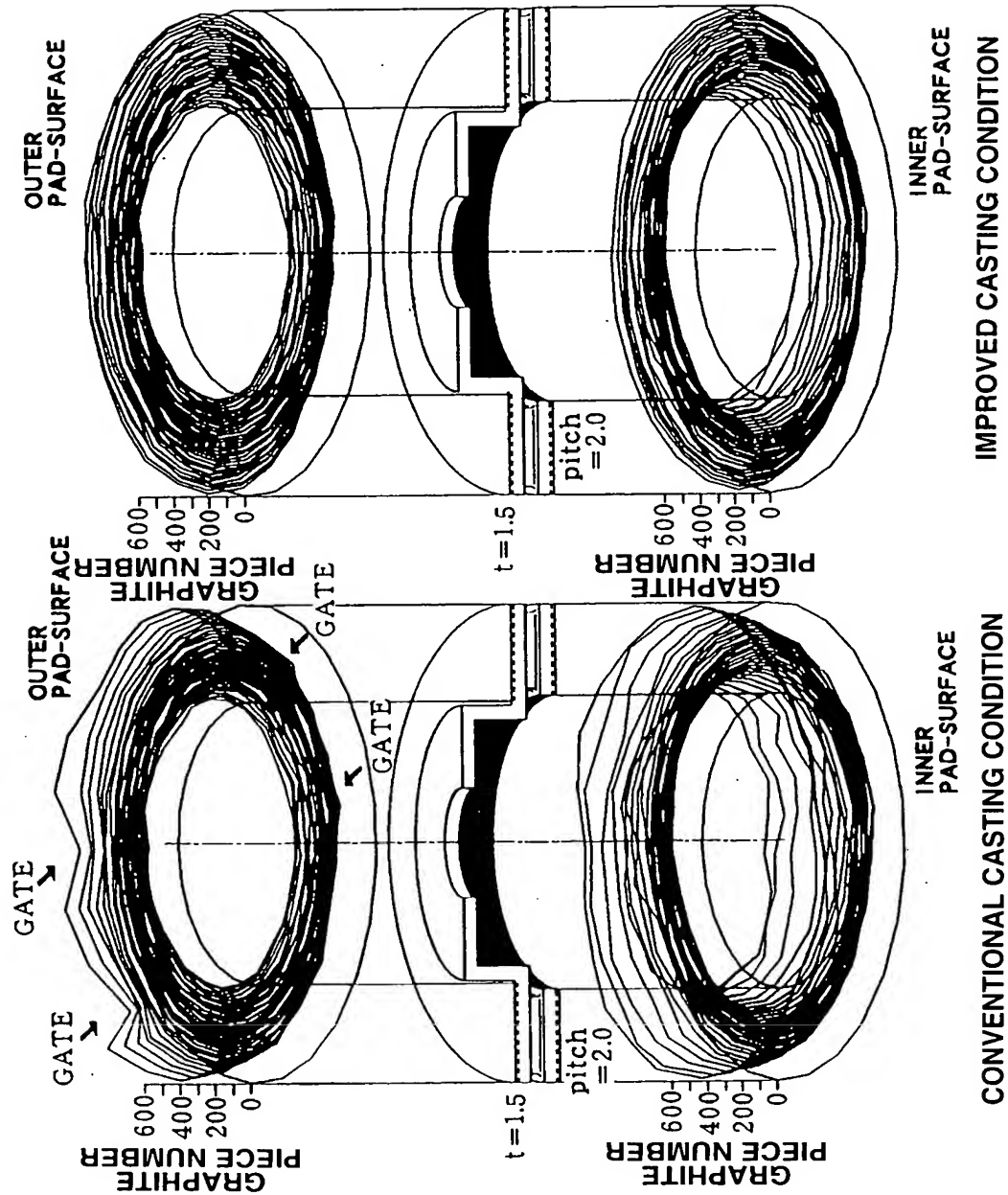
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FIG. 17



INDICATION OF THICK AND THIN DEGREE OF GRAPHITE PIECES
BASED ON THICKNESS OF CALCULATIONAL, ASSUMPTIVE,
REPRESENTATIVE GRAPHITE PIECE WITH LENGTH OF 100 μ m

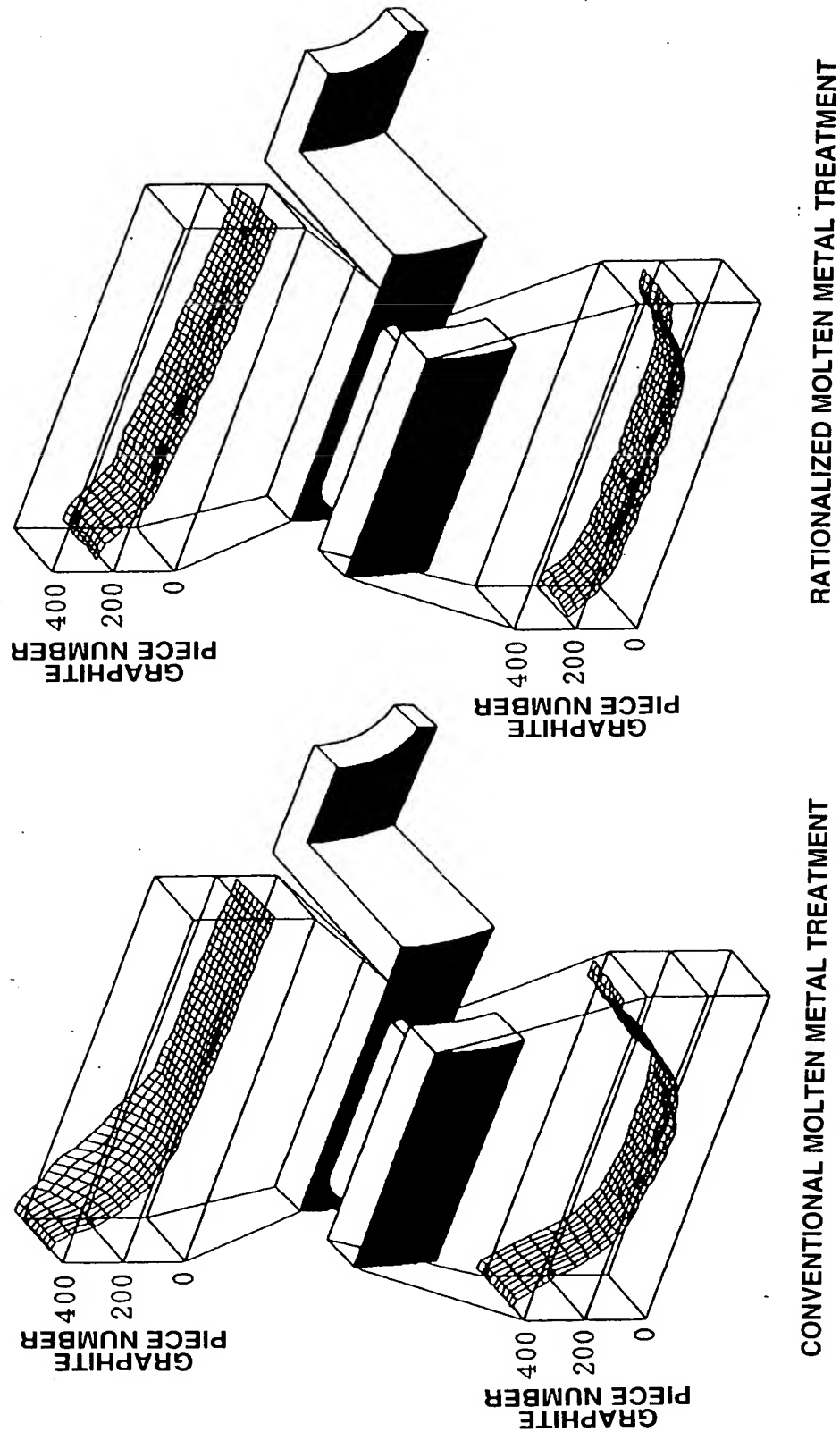
FIG. 18



HOMOGENIZATION OF DISC ROTOR GRAPHITE
STRUCTURE BY IMPROVING CASTING CONDITION

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FIG. 19



IMPROVEMENT OF DISC ROTOR GRAPHITE STRUCTURE
BY RATIONALIZING MOLTEN METAL TREATMENT

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FIG. 20

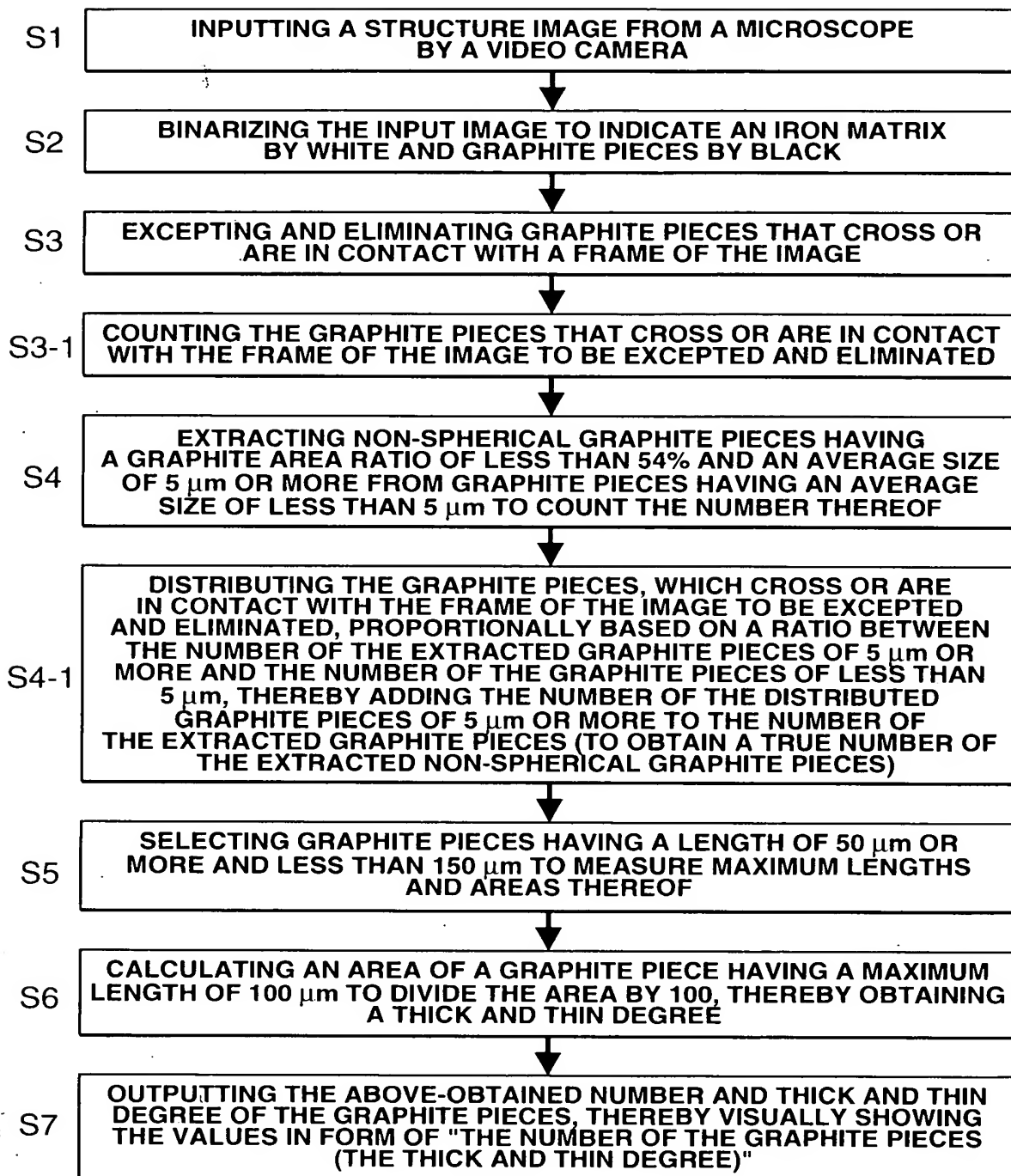
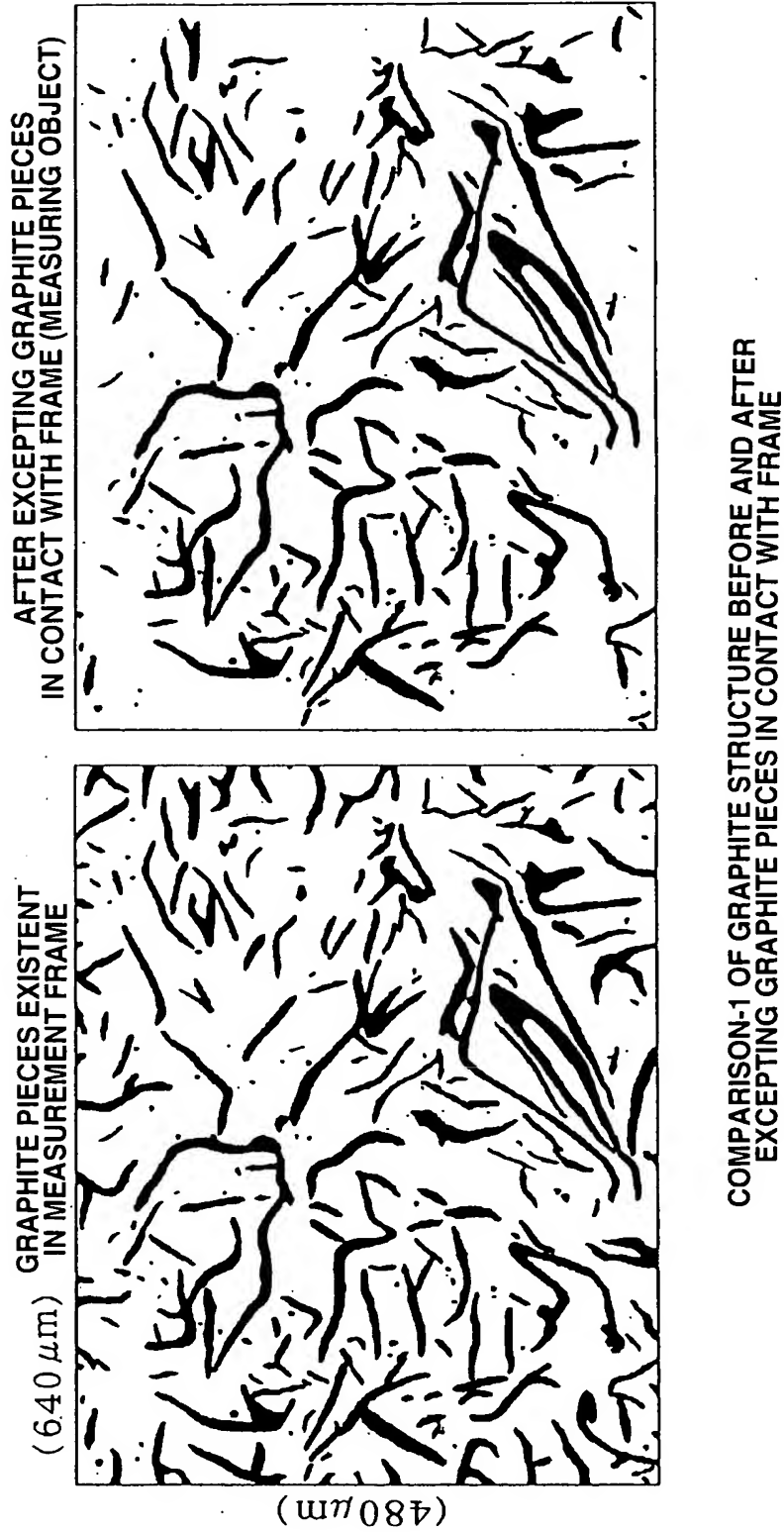
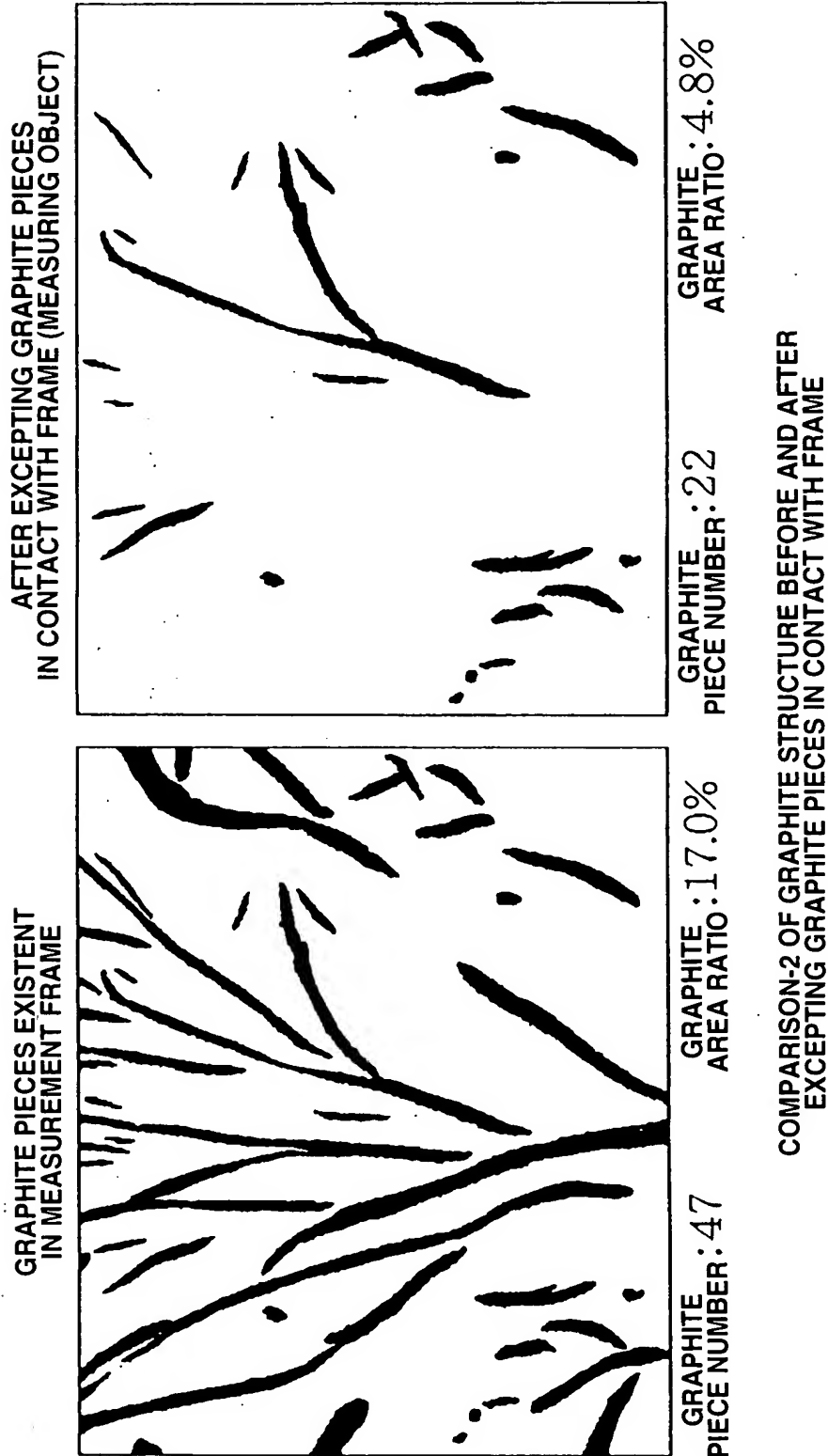


FIG. 21



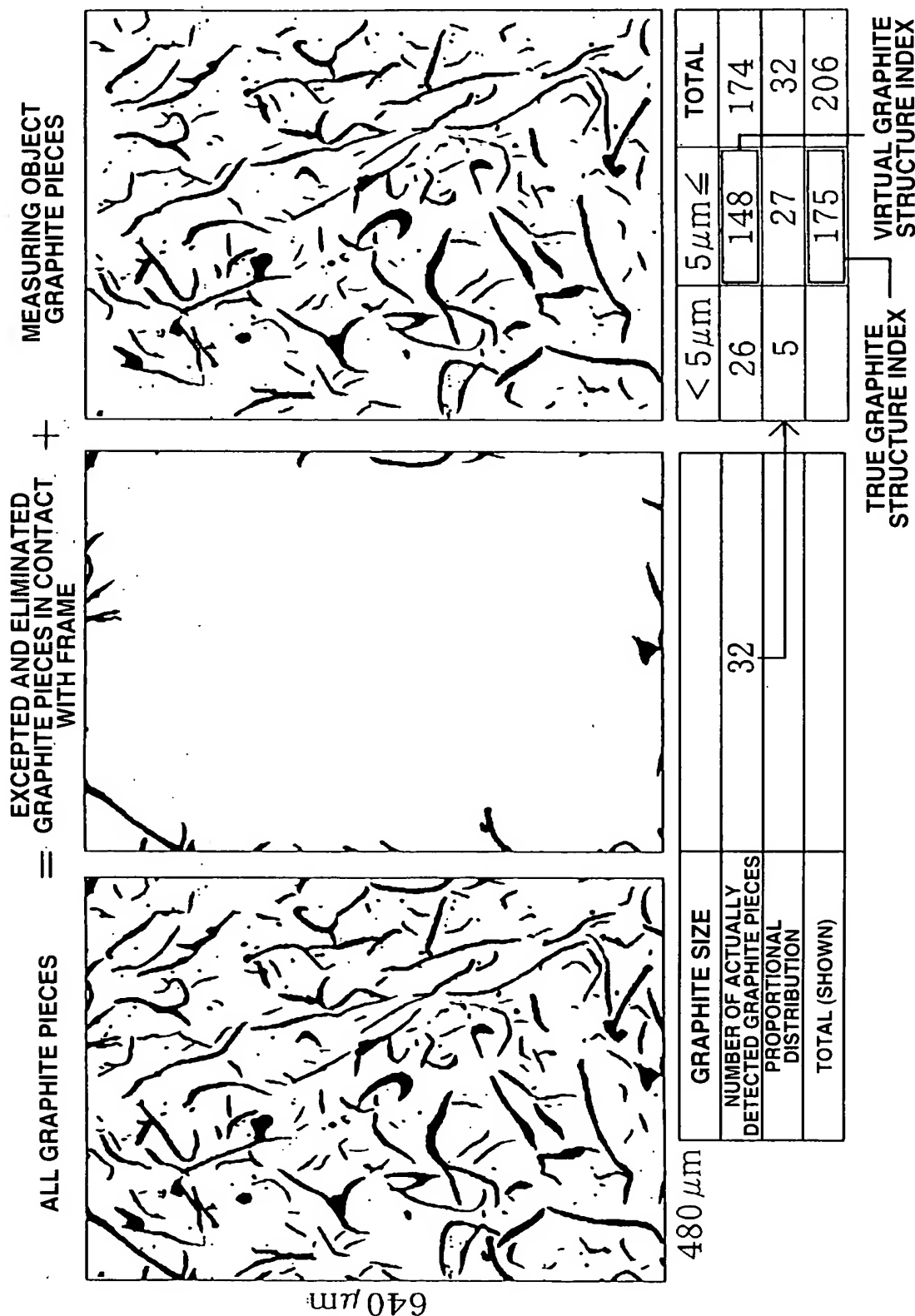
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FIG. 22



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FIG. 23



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FIG. 24

